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| APPLICATION NO.                                     | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO.       |
|-----------------------------------------------------|-------------|----------------------|--------------------------------|------------------------|
| 10/781,580                                          | 02/18/2004  | Russell T. Nakano    | 112003.P002                    | 3059                   |
| 40418                                               | 7590        | 06/29/2007           |                                |                        |
| HEIMLICH LAW<br>5952 DIAL WAY<br>SAN JOSE, CA 95129 |             |                      | EXAMINER<br>BROWN JR, NATHAN H |                        |
|                                                     |             |                      | ART UNIT<br>2121               | PAPER NUMBER           |
|                                                     |             |                      | MAIL DATE<br>06/29/2007        | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                      |                    |  |
|------------------------------|----------------------|--------------------|--|
| <b>Office Action Summary</b> | Application No.      | Applicant(s)       |  |
|                              | 10/781,580           | NAKANO, RUSSELL T. |  |
|                              | Examiner             | Art Unit           |  |
|                              | Nathan H. Brown, Jr. | 2121               |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-62 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## Examiner's Detailed Office Action

1. This Office Action is responsive to the communication for application 10/781,580, filed April 11, 2007.
2. Claims 1-62 are pending. Claims 1, 10, 12, 14, 15, 21-23, 27, 31, 34, 38, 43, 47, 52, 54, and 59 are currently amended. Claims 2-9, 11, 13, 16-20, 24-26, 28-30, 32, 33, 35-37, 39-42, 44-46, 48-51, 53, 55-58, and 60-62 are original.
3. After the previous office action, claims 1-62 stood rejected.
4. Examiner withdraws all rejections under 35 U.S.C. 101.

## Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Reed* (USPN: 5,564,006) in view of *FUKUMIZU* (PN: JP406325009A) and further in view of *Smith* (USPN: 5,818,231).

Regarding claim 1. *Reed* teaches a computer implemented method comprising: inputting a vector space (see col. 3; lines 46-47, *Examiner interprets "intermediate vector space vectors" to comprise a vector space.*). *Reed* does not teach inputting a probability space or generating a

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similarity space capable of being stored in hardware on said computer and capable of being displayed to a user. However, *FUKUMIZU* teaches inputting a probability space (*see Abstract, Examiner interprets the "input probability to each input point on the input space" to be a probability space.*) and *Smith* teaches generating a similarity space capable of being stored in hardware on said computer and capable of being displayed to a user (*see col. 8, lines 54-56, Examiner interprets the "producing similarity data representing distance in a multidimensional measurement space producing a display based upon the similarity data" to be a generating a similarity space for display. Examiner asserts that it is inherent that displayed data is stored in the display hardware.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Reed* with *FUKUMIZU* to: generate an optimum reference for generating reject and to output the reject based on this reference with high reliability at all times; and *Reed* and *FUKUMIZU* with *Smith* to: supplement, assist or replace subjective judgments by trained operators.

### Allowable Subject Matter

7. Claims 2-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: claims 10-59 are not disclosed individually or in combination in the best prior art:

- (A) Reed (USPN: 5,564,006);
- (B) FUKUMIZU (PN: JP406325009A);
- (C) Smith (USPN: 5,818,231);

or in other prior art that could be used:

- (D) Snyder (USPN: 6,038,561);
- (E) Gilai (USPN: 6,018,736 );
- (F) Kaplan (USPN: 5721939);
- (G) Van Praag (USPN: 5283737);
- (H) Zobel, "Exploring the Similarity Space", TBD; and
- (I) Nemadic et al., "Term Clustering Using a Corpus-Based Similarity Measure, 2002;
- (J) Wang (USPN: 5,802,361 ); and
- (K) Webber et al. (USPN: 4,769,756).

In particular, the prior art does not disclose:

- (A) the means for: inputting an eigenspace analysis of a reference, inputting a transition probability model of a target, and operating on an eigenspace analysis *and* a transition probability model as taught in claim 10;
- (B) "a third block having a first input, a second input, and an output, said third block first input coupled to receive said first block output, said third block second input coupled to receive said second block output, and said third block output capable of communicating a similarity space" as taught in claims: 12 and 13;
- (C) "generating a similarity metric based upon an eigenspace analysis and an n-gram" as taught in claim 14;

(D) “receiving a profile; receiving a matrix; and generating a similarity indication between said profile and said matrix” as taught in claims 15-20;

(E) “combining a vector space with a transition probability space” as taught in claim 21;

(F) “performing a mathematical operation using an eigenspace and transition probability matrix to generate a similarity index” storable in hardware and displayable as taught in claim 22; or

(G) the algorithms or computations taught in claims 23-26, 27-30, 31-33, 34-37, 38-42, 43-46, 47-51, 52-53, 54-58, 59-62.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

## Conclusion

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

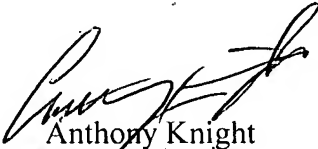
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Anthony Knight  
**Anthony Knight**  
Supervisory Patent Examiner  
Group 3600